

REMARKS

This Response responds to the Office Action dated July 5, 2005 in which the Examiner rejected claims 1, 3-7, 12 and 14-22 under 35 U.S.C. §103.

Claim 1 claims a vehicle-mounted communication device comprising a transmitting/receiving means and a relay means. The transmitting/receiving means is provided for wireless communication of information with road-side communication means located at a road side. The vehicle-mounted communication device is not provided with encryption means for decoding encryption information. The encryption information is passed through the vehicle-mounted communication device in an undecided state. The relay means is for relaying encryption information, received from the road side by the transmitting/receiving means, to an IC card which is connected via an I/O port of the IC card to the vehicle-mounted communication device. The IC card includes a) storage means for storing user information regarding a balance of charges and b) encryption means that encrypts and outputs output information based on the user information and decodes encrypted input information regarding the user information. The relay means relays the output information encrypted by the IC card to the transmitting/receiving means. An ID of the vehicle is stored in the vehicle-mounted communication device for corresponding the vehicle and the vehicle-mounted communication device. A certified key code is stored in the IC card for corresponding the vehicle-mounted communication device and the IC card.

Through the structure of the claimed invention having an IC card which is connected (i.e., communicates) via an I/O port of the IC card to the vehicle-mounted communication device (i.e., via non-wireless communication) as claimed in claim 1,

the claimed invention provides a vehicle-mounted communication device with improved security. The prior art does not show, teach or suggest the invention as claimed in claim 1.

Claims 1, 3-7, 12 and 14-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Hoshino et al. (U.S. Patent No. 6,088,680).

Hoshino et al. appears to disclose an automatic toll adjusting system employing a storage medium having a radio communicating function, which system enables automatic toll adjustment resulting in no ticket being issued or no stopping of a vehicle. (col. 1, lines 15-19) In FIG. 1, reference numeral 2 denotes a frequency converting apparatus, and 3 denotes a vehicle. The frequency converting apparatus 2 is mounted on the vehicle 3 travelling on a toll road. When the storage medium 1 is inserted therein, the frequency converting apparatus 2 converts information at the first predetermined frequency, supplied from the storage medium 1, into the second predetermined frequency to transmit it to the outside by radio communication. The frequency converting apparatus also converts information at the second predetermined frequency, supplied from the outside, into the first predetermined frequency to transmit it to the storage medium 1 by radio communication. At the toll adjusting gate employing a first toll payment system, information is directly exchanged with the storage medium 1 by radio communication at the first predetermined frequency to automatically adjust a toll in the first toll payment system. At the toll adjusting gate employing the second toll payment system, the storage medium 1 is inserted in the frequency converting apparatus 2, and information is indirectly exchanged with the storage medium 1 via the frequency converting apparatus 2 by radio communication at the second predetermined

frequency to automatically adjust a toll in the second toll payment system. (col. 8, lines 1-24)

Thus, *Hoshino et al.* merely discloses a storage medium 1 which communicates only by radio communication either a) directly with a first toll payment system or b) indirectly via a frequency converting apparatus with a second toll payment system. Nothing in *Hoshino et al.* shows, teaches or suggests an IC card which is connected via a I/O port to a vehicle-mounted communication device (i.e., IC card communicates via non-wireless communication through an I/O port) as claimed in claim 1. Rather, *Hoshino et al.* teaches away from the claimed invention since the storage medium 1 communicates only via radio communication not via an I/O port.

Additionally, *Hoshino et al.* merely discloses a storage medium 1 which directly exchanges information by radio communication when a first toll payment is employed and when a second toll payment is employed, the storage medium is inserted in a frequency converting apparatus 2 and information is exchanged via the frequency converting apparatus 2 by radio communication. In other words, *Hoshino et al.* discloses wireless communication between the frequency converting apparatus 2 and the storage medium 1 and the various apparatuses 4-6. However, as claimed in Claim 1, the transmitting/receiving means has wireless communication with the road-side communication means while the IC card communicates via I/O port with the vehicle-mounted communication device (i.e., the transmitting/receiving means has wireless communication while the IC card has non-wireless communication). However, *Hoshino et al.* teaches away from the claimed invention since the storage

medium 1 and frequency converting apparatus 2 always communicate by radio communication (i.e., by wireless communication).

Applicants respectfully traverse the Examiner's statement that both IC cards and radio are known methods of wireless communication and that it would be obvious to substitute an IC card for radio. Applicants respectfully point out that the IC card of the invention as claimed in Claim 1 does not have a radio communication function. Rather, it communicates via an I/O port to a vehicle-mounted communication device. Hoshino et al. discloses a storage medium 1 having a radio communication function which only transmits and receives information via radio communication either directly with the toll payment system or indirectly via a frequency converting apparatus. Nothing in Hoshino et al. taken singularly or in combination shows, teaches or suggests the invention as claimed in Claim 1 in which a IC card is connect via a I/O port while a transmitting/receiving means communicates via wireless communication.

Since nothing in Hoshino et al. shows, teaches or suggests communication of a IC card via non-wireless communication through an I/O port and a transmitting/receiving means having wireless communication as claimed in Claim 1, Applicants respectfully request that the Examiner withdraws the rejection to Claim 1 under 35 U.S.C. § 103.

Claims 3-7, 12 and 14-22 depend from claim 1 and recite additional features. Applicants respectfully submit that claims 3-7, 12 and 14-22 would not have been obvious over Hoshino et al. within the meaning of 35 U.S.C. § 103 at least for the reasons as set forth above. Therefore, applicants respectfully request the Examiner withdraws the rejection to claims 3-7, 12 and 14-22 under 35 U.S.C. § 103.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested. Should the Examiner find that the application is not now in condition for allowance, Applicants respectfully request the Examiner enters this Response for purposes of appeal.

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

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